

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Inventor: Curtis C. Shoup)
Serial No: 09/325,311)
Title: METHOD OF FABRICATING)
SECURITY DOOR) G.A.U. 3726
Filed: June 3, 1999)
Examiner: Trinh Nguyen)

APPLICANT'S APPEAL BRIEF

I hereby certify that this correspondence
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20231, on February 5, 2001.

By C. S. L. & THOMAS
Charles L. Price

Registration No. 85,210

Date: February 5, 2001

Assistant Commissioner of Patents
Board of Appeals and Patent Interferences
Washington, DC 20231

Sir:

Applicant hereby presents in triplicate his appeal brief, pursuant to 37 C.F.R.

§ 1.192.

REAL PARTY IN INTEREST

The real party in interest in this application is Columbia Manufacturing Corp., a California corporation having an address of 14400 South San Pedro's Creek, Gardena, CA 90248. An assignment to Columbia manufacturing was executed by the Applicant in the parent of the present application, U.S. application serial number 08/976,763, now U.S. Patent No. 5,979,137. That assignment is effective as to the present application as well. The assignment was recorded in the U.S. Patent and Trademark Office at Reel 8916, Frames 0576 through 0578.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF THE CLAIMS

This appeal is taken with respect to the rejection of Claims 1-17 which were finally rejected by the Examiner on August 29, 2000. Claims 18-20 of the application as originally filed were canceled by a Preliminary Amendment submitted with the application at the time of filing on June 3, 1999. No claims have been allowed, and there are no other claims in the application.

STATUS OF AMENDMENTS

One amendment was submitted subsequent to the Examiner's final rejection of August 29, 2000. This amendment was received by the U.S. Patent and Trademark Office on December 1, 2000. By submitting it Applicant sought to amend the claims rejected under 35 USC § 112 so as to simplify the issues raised on appeal. However, in an

Advisory dated December 18, 2000, the Examiner refused entry of that amendment stating that it raised new issues that would require further consideration and/or search and that it was not deemed to place the application in a better form for appeal by materially reducing or simplifying the issues for appeal. Applicant's attorney contacted the Examiner by telephone and requested reconsideration of the refusal of entry of the December 1, 2000 Amendment. The Examiner apparently had difficulty locating the file but on February 2, 2001 she informed Applicant's attorney by telephone that she had reconsidered and was entering the December 1, 2000 Amendment. She declined to withdraw the rejections under 35 USC §112, however. Claims 1-17 that appear in the Appendix hereto are the claims as they stand as amended in the December 1, 2000 Amendment since on February 2, 2001 the Examiner did indicate that the December 1, 2000 Amendment was being entered.

SUMMARY OF INVENTION

Applicant's invention is a method of fabricating a security door 10, illustrated in Fig. 1. Referring to elements shown in the drawing figures, Claim 1 claims a method of fabricating a metal security door 10 having a frame 12 formed with a pair of hollow upright stile members 14 and 16, upper and lower transverse rail members 22 and 24 extending between the stile members 14 and 16, and security bars 26 and 28. The security bars 26 and 28 are required to extend between at least some of the stile members 14 and 16 and rail members 22 and 24. The improvement of the invention comprises spot welding the security bars 26 and 28 to at least some of the stile members 14 and 16 and rail members 22 and 24, as illustrated in Fig. 4.

Claim 2 includes all of the limitations of Claim 1 and further requires a plurality of transverse security bars, namely the security bars 26, and a plurality of upright security bars, namely the security bars 28. Claim 2 goes on to require the stile members 14 and 16 and rail members 22 and 24 to be formed with flat, inwardly directed attachment flanges 50, shown in Figs. 3 and 4. The transverse security bars 26 are positioned to pass across the attachment flanges 50 of the stiles 14 and 16 and the upright security bars 28 are positioned to pass across the attachment flanges 50 of the rails 22 and 24. The security bars 26 and 28 do not intersect each other since they are positioned against the opposing surfaces of the attachment flanges 50, as illustrated in those drawing figures. The security bars 26 and 28 reside in contact with and are spot welded to the attachment flanges 50, as illustrated in Fig. 4.

Claim 3 includes all of the limitations of Claim 2 and further comprises forming and positioning the attachment flanges 50 in mutually coplanar relationship to each other to reside in a common plane 52, indicated in Fig. 4. Claim 3 goes on to require that the step of spot welding secures the transverse security bars 26 to the attachment flanges 50 of the stiles 14 and 16 on one side of the common plane 52, and that the step of spot welding secures the upright security bars 28 to the attachment flanges 50 of the rail members 22 and 24 on the opposite side of the common plane 52, as illustrated in Fig. 4.

Claim 4 is dependent upon Claim 2 and requires the step of first punching security bar receiving openings 42 and 42a in at least one flat sheet metal strip 32, shown in Fig. 2. Claim 4 also requires cutting the flat sheet metal strip 32 to form corner securing tabs 40

thereon, also as illustrated in Fig. 2, and in Fig. 5. Claim 4 requires roll forming the flat sheet metal strip 32 to form the hollow stile members 14 and 16 and the rail members 22 and 24 so that at least some of the stile and rail members have pairs of the corner securing tabs 40 projecting therefrom, as illustrated in Figs. 5 and 7. Claim 4 goes on to require positioning the hollow stile and rail members 14, 16, 22, and 24 so that the frame 12 has a rectangular configuration forming four corners, as shown in Fig. 1. This is done so the transverse rail members 22 and 24 meet the upright stile members 14 and 16 with a pair of the corner securing tabs 40 at each of the corners projecting into an adjacent hollow member, as illustrated in Figs. 5 and 7.

In the implementation of the claimed method illustrated in the application drawings, the fastening tabs 40 are formed at the ends of the rail members 22 and 24. However, as explained in the specification, the miter cuts could be altered so that the corner fastening tabs 40 project from both ends of the stiles 14 and 16 instead, or from a single end of each of the stile members 14 and 16 and rail members 22 and 24 (Specification, page 17, lines 7-11). Claim 4 requires the additional step of spot welding the pairs of corner securing tabs 40 to a hollow member adjacent thereto at each of the corners, as illustrated in Figs. 5, 6, and 7.

Claim 5 is dependent upon Claim 4 and requires all of the hollow members, i.e. the stiles 14 and 16 and the rails 22 and 24, to be formed from a single, flat sheet metal strip 32, as illustrated in Fig. 2.

Claim 6 is dependent upon Claim 5 and requires the additional step of initially

cutting spot welding tip access apertures 44 in the single flat sheet metal strip 32 so as to create at least one spot welding tip access aperture 44 in the hollow members 14, 16, 22, and 24 at each of the corners, as shown in Figs. 2, 6, and 7. Claim 6 further requires the step of spot welding pairs of corner securing tabs 40 to the adjacent hollow members by inserting internal spot welding tips 64 into the spot welding tip apertures 44, as illustrated in Figs. 6 and 7, so as to contact the corner securing tabs 40 within the adjacent hollow members. Claim 6 further requires bringing external spot welding tips 68 and 70 into external contact with the adjacent hollow members. Electric currents are then passed between the internal spot welding tips 64 and the external spot welding tips 68 and 70 to spot weld the hollow members 14, 16, 22, and 24 together at each of the corners.

Claim 7 is an independent claim that requires the formation of four hollow door perimeter segment members, namely the stiles 14 and 16 and the rails 22 and 24, so as to define a plurality of security receiving openings 42 and 42a in each of the perimeter segment members 14, 16, 22, and 24, as shown in Fig. 2. The next step in Claim 7 is the positioning of a plurality of metal security bars 26 and 28 to project through the security bar receiving openings 42 and 42a and into the hollow perimeter segment members 14, 16, 22, and 24 so that the ends of the metal security bars 26 and 28 terminate within the perimeter segment members 14, 16, 22, and 24, as illustrated in Fig. 4. Also, the perimeter segment members 14, 16, 22, and 24 are positioned together to form a rectangle as illustrated in Figs. 5 and 1. Claim 7 then requires the ends of the metal security bars 26 and 28 to be spot welded to the perimeter segment members 14, 16, 22, and 24 within

which they terminate, as illustrated in Fig. 4.

Claim 8 is dependent upon Claim 7 and further comprises roll forming the hollow segment members 14, 16, 22, and 24 so as to create a security bar attachment flange 50 on each of the hollow perimeter segment members 14, 16, 22, and 24. In this way, when the perimeter segment members 14, 16, 22, and 24 are positioned together to form the rectangle, the attachment flanges 50 all project inwardly within the rectangle and lie in a common plane 52, as illustrated in Figs. 3 and 4. The security bar receiving openings 42 in each of the perimeter segment members 22 and 24 reside proximate to the security bar attachment flange 50 thereof on one side of the common plane 52, while the security bar openings 42a in each of the adjacent perimeter segment members 14 and 16 lie on the opposite side of the common plane 52, as is evident in Figs. 3 and 4.

Claim 9 is dependent upon Claim 8 and further comprises forming hollow segment members 14, 16, 22, and 24 from at least one elongated sheet 32 of metal having opposing longitudinal edges 34 and 36, rolling the edges 34 and 36 together and turning one edge over the other to form the security bar attachment flanges 50, as illustrated in Figs. 3 and 4.

Claim 10 is dependent upon Claim 9 and further comprises forming all of the hollow segment members 14, 16, 22, and 24 from a single common elongated sheet 32 of metal, shown in Fig. 2.

Claim 11 is dependent upon Claim 7 and further comprises forming at least some of the perimeter segment members 14, 16, 22, and 24 with corner tabs 40 projecting from

their ends and spot welding the corner tabs 40 to other of the perimeter segment members 14, 16, 22, and 24 located adjacent thereto, as shown in Figs. 6 and 7.

Claim 12 is dependent upon Claim 11 and further comprises cutting electrode access openings 44, shown in Figs. 2, 6, and 7, at each corner of the rectangle formed by the perimeter segment members 14, 16, 22, and 24 so that there is an electrode access opening 44 at each corner of the rectangle. Claim 12 requires internal spot welding electrodes 64 to be inserted into the electrode access openings 44 and external spot welding electrode 68 and 70 to be pressed against the perimeter segment members 14, 16, 22, and 24 to hold the corner tabs 40 in contact with the perimeter segment members located adjacent thereto. Electric current is then passed between the internal electrodes 64 and the external electrode 68 and 70 to spot weld the corner tabs 40 to the perimeter segment members 14, 16, 22, or 24 located adjacent thereto at each of the corners of the rectangle, as shown in Figs. 6 and 7.

Claim 13 is an independent claim and is directed to same subject matter, and is of comparable scope as dependent Claim 3.

Claim 14 is dependent upon Claim 13 and further requires roll forming the metal door frame 12 from a single elongated strip 32 of sheet metal and cutting miter cuts 38 into the strip 32 to form mitered corners between adjacent frame members 14, 16, 22, and 24 as illustrated in Figs. 2 and 5.

Claim 15 is dependent upon Claim 13 and is directed to the same subject matter as Claim 9.

Claim 16 is dependent upon Claim 15 and is directed to the same subject matter as Claim 12.

Claim 17 is dependent upon Claim 16 and requires sequentially spot welding each of the corner tabs 40 in each pair of corner tabs 40. That is, with reference to Fig. 6, electrical current is first passed between the electrodes 64 and 68, and then subsequently between electrodes 64 and 70.

Applicant respectfully submits that all of the claims remaining in the application meet the 35 USC § 112 requirement of particularly pointing out and distinctly claiming the subject matter of the invention.

ISSUES

- (1) Are claims 2 through 6, 7, and 8 indefinite under 35 USC § 112 for failing to particularly point out and distinctly claim the subject matter of the invention?
- (2) Are claims 1, 2, 4 through 7, and 11 through 17 obvious and therefore unpatentable under 35 USC § 103 considering the Lee reference in view of Brunke et al, Goldsmith, Stern, and/or Janotik et al?

GROUPING OF CLAIMS

Applicant considers Claims 2 and 4 through 7 to constitute a first group (Group I) of claims for purposes of this appeal. The Group I claims have all been rejected under both 35 USC § 112 and 35 USC § 103. Applicant considers Claims 3 and 8, 9 and 10 to constitute a second group of claims (Group II) for purposes of this appeal. The Group II claims were rejected under 35 USC § 112 but in the final rejection of the other claims in

the Official Action of August 29, 2000 were indicated as being allowable if amended to overcome the rejection under 35 USC § 112. Applicant considers Claims 1 and 11 through 17 to constitute a third group of claims (Group III) for purposes of this appeal. The Group III claims all stand rejected under 35 USC § 103 only, as they were not rejected under 35 USC § 112.

ARGUMENT

35 USC § 112 Rejections

(Indefiniteness)

In the first official Action and the Examiner rejected Claims 2 through 6,8 through 12, and 13 under 35 USC § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In doing so the Examiner referred to specific passages in Claims 2, 3, 8, and 11 which she stated were exemplary only.

Responsive to that rejection Applicant filed an amendment on June 12, 2000 which amended all of the wording in the claims specifically found by the Examiner to be indefinite to attempt to satisfy the Examiner's concerns of indefiniteness. The Examiner entered the amendment of June 12, 2000 but again rejected Claims 2-6,7, and 8 as being indefinite under 35 USC § 112 for failing to particularly point out and distinctly claim the invention. With respect to Claim 2 the Examiner raised the question as to whether the phrase "said security bars" appearing at lines 7 and 8 of Claim 2 referred to the "transverse security bars" or the "upright security bars". With respect to Claims 3, 6, 7, and 8 the Examiner suggested specific alternative language to terminology that she found

objectionable.

In response, Applicant filed an amendment that was received in the Patent Office on December 1, 2000 seeking to respond specifically to the question raised by the Examiner with respect to Claim 2 and to adopt the alternative terminology of Claims 3, 6, 7, and 8 proposed by the Examiner in her Official Action of August 29, 2000. However, in an Advisory dated December 18, 2000, the Examiner refused entry of the proposed amendments to Claims 2, 3, 6, 7, and 8, which incorporated the alternative wording that she had suggested. She refused entry of these amendments to Claims 2, 3, 6, 7, and 8 that adopted the very wording that she had proposed on the basis that the amendment raised new issues that would require further consideration and/or search and were not deemed to place the application in a better form for appeal by materially reducing or simplifying the issues for appeal. Applicant's attorney then attempted to resolve what appears to Applicant to be an inconsistency in the positions of the Examiner taken in the Office Action of August 29, 2000 and the Advisory Action of December 18, 2000. In response to two telephone inquiries the undersigned was informed that the Examiner could not locate the file of this application. She eventually was able to locate the file and on February 2, 2001 informed Applicant's attorney that the Amendment of December 1, 2000 would be entered but that she was not prepared to remove the rejection of claims under 35 USC 112.

Applicant believes that the Examiner's positions with respect to the 35 USC § 112 issues are inconsistent as between the Official Action of August 29, 2000 and the Advisory Action of December 18, 2000. Applicant believes that this inconsistency is itself indicative

that none of the claims, as they stand amended following entry of Applicant's amendment of June 12, 2000 and now the Amendment of December 1, 2000, are indefinite.

The portion of Claim 2 to which the Examiner held to be indefinite in her final rejection is the last step of that claim which requires "positioning said transverse security bars so that they pass across said attachment flanges of said style members, and positioning said upright security bars so that they pass across said attachment flanges of said rail members wherein said security bars reside in contact with and are spot welded to said attachment flanges across which they pass."

Referring to drawing of Figs. 1, 3, and 4, it can be seen that the transverse security bars 26 are positioned to pass across the attachment flanges 50 of the stiles 14 and 16 and that the upright security bars 28 are positioned to pass across the attachment flanges 50 of the rails 20 and 22. It is therefore evident that the security bars 26 reside in contact with and are spot welded to the attachment flanges 50 across which they pass, and that the security bars 28 also reside in contact with and are spot welded to the attachment flanges 50 across which they pass. Although Applicant was willing to modify the wording of Claim 2 solely for the purpose of satisfying the concern of the Examiner regarding that claim, Applicant respectfully submits that Claim 2 as it stands now, or as previously amended on July 12, 2000, is not in any way indefinite under 35 USC § 112.

The Examiner stated with respect to Claim 3 in her final rejection of August 29, 2000 that in line 4 the phrase "said stiles" should be written as "said style members". Applicant would agree that for purposes of consistency throughout Claim 3 this change

might be advisable, and Applicant made this change by amendment on December 1, 2000. However, the Examiner has not withdrawn the rejection of that claim under 35 USC § 112. Applicant strongly disagrees and believes that either the term "said stiles" or the term "said style members" would be unequivocally understood by any person of ordinary skill in the art to refer to the structures 14 and 16 in the specification which are referred to alternatively throughout the specification as "stile members 14 and 16" (e.g. page 7 and, line 6) and as "stiles 14 and 16" (e.g. page 7, line 9).

It is believed that the rejections under 35 USC § 112 of Claims 4 and 5 were made due to their ultimate dependency upon Claim 3, and not to any terminology found within Claims 4 and 5 themselves. Therefore, the rejections of Claims 4 and 5 under 35 USC § 112 are unwarranted for the same reason that rejection of Claim 3 under 35 USC § 112 is unwarranted.

In her final rejection of August 29, 2000 the Examiner rejected Claim 6 under 35 USC § 112 on the basis that the phrase "said single, flat, sheet metal strip" should be rewritten as "said flat sheet metal strip". Applicants Amendment of December 1, 2000 amends Claim 6 precisely in this manner. That change was made for the sole purpose of satisfying the Examiner, not because Applicant considered the claim to be indefinite. However, the Examiner continues to reject Claim 6 under 35 USC § 112 which was amended to adopt the terminology that the Examiner had proposed. Applicant respectfully submits that whether the sheet metal strip 32 shown in Fig. 2 of the drawings is referred to as a "single flat, sheet metal strip", the antecedent basis for which appears in Claim 5 upon

which Claim 6 is dependent, or the term "flat sheet metal strip", which appears in Claim 4 upon which Claim 5 is dependent, is of no significance insofar as satisfying the requirements of 35 USC § 112. Applicant respectfully submits that there is absolutely no indefiniteness in Claim 6, since there is only one flat sheet metal strip, namely the single flat sheet metal strip 32 required in Claim 5 from which Claim 6 depends.

In the Office Action of August 29, 2000 the Examiner stated that Claim 7 is indefinite and rejected under 35 USC § 112 because the phrase in line 5 "said hollow perimeters segment members" should be rewritten as "said perimeter segment members". The undersigned amended Claim 7 to adopt the wording preferred by the Examiner in the proposed amendment of December 1, 2000. However, the Examiner has continued the rejection of that claim under 35 USC § 112.

Claim 7 at line 2 now requires the formation of "hollow metal door perimeter segment members. These hollow perimeter segment members appear at 14, 16, 22, and 24 in Fig. 1 and the member 14 appears in Fig. 4. Whether these members are referred to at line 5 of Claim 7 as "hollow perimeter segment members" or "perimeter segment members" there can be no question but that this reference is to the antecedent recitation of "four hollow metal door perimeter segment members" that appears three lines earlier in the same claim. Applicant respectfully submits that Claim 7 clearly meets the specificity requirements of 35 USC § 112.

The Examiner held in the Official Action of August 29, 2000 that Claim 8 was indefinite under 35 USC § 112 in that the phrase "said hollow segment members" should be

rewritten as "said perimeter segment members" in lines 2 and 3 of Claim 8. In the Amendment of December 1, 2000 Applicant amended the claim in this manner, solely for the purpose of satisfying the language preference of the Examiner. The terminology involved in Claim 8 relates to the same structure and is very similar to the terminology involved in Claim 7, previously discussed. Applicant respectfully submits that Claim 8 is not indefinite under 35 USC § 112 for the same reason that Claim 7 is not indefinite under that statute.

35 USC § 103 Rejections

(Obviousness)

The Examiner has rejected Claims 1 and 7 under 35 USC § 103(a) as being unpatentable over Lee, U.S. Patent No. 5,862,645 in view of Bruhnke et al, U.S. Patent No. 4,470,717. Applicant respectfully requests reconsideration of this basis for rejection.

As noted by the Examiner, Lee does indeed teach a method of fabricating a metal security door frame comprising the steps of forming four hollow segments 122 having a plurality of receiving openings 1221 and placing a plurality of security bars 13, 14 within the receiving openings 1221 to form a complete security frame. Bruhnke et al, on the other hand, is not directed to the field of security door fabrication, but rather to a rib seam arrangement for sheet metal parts. The field of the Bruhnke et al patent is the fabrication of manufacturing vehicle roof rain channels (Bruhnke et al, column 1, lines 23-25).

Bruhnke discloses in Fig. 4 a spot weld web seam for thin walled sheet metal parts 1 and 2 which includes a triple layer web 3 projecting from a surface of the joined parts 1 and 2.

The joining of the folded back over portion of the flange 6 to the flange 4 is accomplished by a series of spot welds 7 (Bruhnke et al, column 4, lines 23-29).

There is no disclosure or suggestion to one of ordinary skill in the art of metal security door manufacture having the Lee and Bruhnke et al references before him that would lead such a person to spot weld the security bars 13 and 14 to the metal inner frame 122 of Lee using the attachment method of spot welding, taught in Bruhnke et al. Indeed, it would be impossible to spot weld the security bars 13 or 14 to the frame 122 of Lee since there is no face-to-face surface contact between the security bars 13 and 14 and any surface of the metal inner frame 122. This is of critical importance so that the parts can be spot welded together as recognized by Applicant in the Specification of the present application, (page 3, lines 15-18).

In order for two metals to be spot welded together it is imperative that there be flat surface contact between some portion of those members so that electrodes can be positioned on opposite sides of them and an electrical current passed between the electrodes. The step of spot welding the security bars 13 and 14 to at least some of the stile and rail members of the inner frame 122 shown in Lee would be physically impossible due to the absence of any face-to-face surface contact between these members.

Furthermore, the teaching of Bruhnke et al is directed to the spot welding of thin walled sheet metal parts, such as the parts 1 and 2 shown (Bruhnke et al, column 4, lines 10 and 11). In contrast, Applicant's invention requires spot welding security bars, which are relatively thick as shown both in the Lee reference and in drawing Figures 3 and 4 of

the present application. As a consequence, there is no disclosure in the combination of Lee with Bruhnke et al that would teach one how to spot weld the security bars 13 and 14 to the frame 122 of Lee.

In the case of W. L. Gore and Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (CAFC 1983). The Court of Appeals for the Federal Circuit held:

"There must have been something present in teachings in references to suggest to one skilled in art that claimed invention before court would have been obvious."

As held in the case of In re Geiger, 2 USPQ 2d 1276 (CAFC 1987):

"Obviousness cannot be established by combining teachings of prior art to produce claimed invention, absent, some teaching, suggestion, or incentive supporting combination, and thus, although it might have been obvious to one skilled in art to try various combinations of teachings of three prior art references to achieve claimed method, such evidence does not establish prima facie case of obviousness."

The Examiner also rejected Claims 2 and 13 under 35 USC § 103(a) as being unpatentable over Lee in view of Bruhnke et al and further in view of Goldsmith, U.S. Patent No. 2,568,140. The Examiner acknowledges that the Lee/Bruhnke et al combination does not teach the formation of a flange member with which security bars reside in contact. The Examiner relies upon the Goldsmith teaching, which is directed to a shelf construction for stoves, storage cabinets, and household refrigerators (column 1, lines

1-5) to supply this teaching.

The structure of Goldsmith shows crossbars 10 extending to a frame 11 having a flange member 19 (Goldsmith, Fig. 5). As shown in Figs. 4, 5, and 6, and as explained in the specification of Goldsmith from column 2, line 37 to column 3, line 8, the ends of the crossbars 10 are inserted into the frame 11 between the stop ledge 18 and the lower flange 19. The stop ledge 18 includes a rib 17 that engages a corresponding groove 18 in crossbar 10. The lower flange 19 is then bent up to cause the upper and lower flanges 18 and 19 of frame 11 to grip the ends of the crossbars 10 (column 2, line 55 to column 3, line 4). Goldsmith teaches that this grip precludes any looseness or "play" during the entire life of the shelf (column 3, lines 4-8).

Goldsmith teaches a method of attaching bars to a frame that is a completely different than and inconsistent with the spot welding method claimed by Applicant. Thus, there is no reason apparent from the references as to why or how the Goldsmith reference should or could be utilized in combination with the Bruhnke et al reference. Furthermore, from the three references, Lee, Bruhnke et al, and Goldsmith, there is no teaching or suggestion to one of ordinary skill in the art that the security bars 13 and 14 should or could be spot welded to the frame 122 of Lee. Quite to the contrary, Goldsmith suggests that they can be crimped in place. Bruhnke et al does not explain how members having no face-to-face contact, such as the security bars 13 and 14 and the frame 122 of Lee could possibly be spot welded together. Thus, the combination of Goldsmith with Lee and Bruhnke et al actually teaches away from Applicant's invention.

As held by the Patent Office Board of Appeals in Ex parte Harris, 94 USPQ 282 (BPA&I 1952):

"Modification of references would be contrary to purposes of prior structures and also could be made only in light of applicant's teachings; therefore, modification is not proper basis for rejection of claims."

As held in Ex Parte Jackson, 146 USPQ 409 (1964):

"Claims are not rejected as unobvious over primary reference in view of secondary reference where to so modify device of primary reference would destroy its structural identity and mode of operation"

As held in Ex Parte Rosenfeld, 130 USPQ 113 (1961):

"References are improperly combined inasmuch as Examiner's proposed modification of one reference is directly contrary to specific limitation in reference and would render device of reference unsatisfactory for its intended purpose; one skilled in art would not modify such device to make it unsuitable for its intended purpose".

The Examiner rejected Claims 4, 5, 11, 14, and 15 under 35 USC § 103(a) as being unpatentable over the references as applied to Claims 2 and 13 further in view of the Stern patent, U.S. Patent No. 5,018,263. However, the combination of Stern with the other references does not disclose or suggest the step of spot welding the security bars to at least some of the stile and rail members because that combination of references still fails to disclose any fact-to-face contact between the security bars and a window or door frame.

If one were to substitute the metal frame construction disclosed by the Stern patent for that disclosed by Lee, the inner frame 122 of Lee would have the cross-sectional configuration illustrated at Fig. 5 in the Stern patent. This would include a turned over fold 14 which is crimped over the edge of fold 16 (Stern, column 4, lines 5-11). Furthermore, Stern teaches that epoxy 33 is applied to the inside surface of fold 14 which is then crimped over the edge of fold 16. Thus, Stern utilizes a combination of crimping and glue to secure the folds 14 and 16 together. This teaching is directly contrary to the teaching of Bruhnke et al which utilizes spot welds 7 to attach two comparable folds together. There is therefore no reason to combine Stern with Bruhnke et al since these two references contain contradictory teachings for joining together thin walled sheet metal parts. That is, two such parts could be brought together and crimped and glued as shown in Stern or, alternatively, spot welded together as taught in Bruhnke et al. There would be no reason to do both or to substitute the spot welding of Bruhnke et al for the crimping and gluing technique taught in Stern.

As held in In re Shaffer, 108 USPQ 326 (CCPA 1956):

"References were improperly combined since there is no suggestion in either of them that they can be combined to produce applicant's result."

Moreover, if one were to make the substitution, there is still no teaching in any of the references that would lead one to spot weld the metal bars 13 and 14 to any portion of the frame 122 of Lee. Rather, both Stern and Bruhnke et al teach methods of securing longitudinal edges of thin walled sheet metal parts together. Arguably Bruhnke et al

teaches the substitution of spot welding in order to fasten the edge margins 14 and 16 shown in Fig. 1 of the Stern patent together. However, neither reference discloses or suggests the method of securing bars to a rectangular frame using any method alternative to that depicted in Lee.

As held by the Court of Appeals for the Federal Circuit in In Re Sernaker, 217 USPQ 1 (CAFC 1983):

"Lesson of In re Imperator, 179 USPQ 730, is that prior art references in combination do not make invention obvious unless something in prior art references would suggest advantage to be derived from their combined teachings."

None of the references relied upon for the rejection of any of the claims suggests the advantages of reduction of time and skill required to secure rectilinear grillwork in a security door frame. Such a result and advantage is found only in the teachings of the specification of the present application (page 3, line 7-11).

The Examiner rejected Claims 6, 12, 16, and 17 under 35 USC § 103(a) as being unpatentable over the foregoing references and further in view of Janotik et al, U.S. Patent No. 5,549,352. As disclosed in Fig. 7 of that reference an elongated aperture 186 is defined through a wall of the structural member 182 to provide access for spot welding guns. Spot welding is used to secure the base walls 176 and side walls 178 to the flaps 184 and the side walls of the member 182 (column 7, lines 9-11 and 15-17). However, the Janotik reference is directed to a field completely different from that of Applicant's

invention. Specifically, the Janotik method is directed to frame structures for automotive vehicles (column 1, lines 12-14). The Court of Appeals for the Federal Circuit has provided guidance as to just how far afield references can be if relied upon as a basis for rejecting or invalidating claims.

As held in Heidelberger Druckmaschinen AG v. Hantscho Commercial Products Inc., 30 USPQ2d 1377 (CAFC 1994):

“References which are not within field of inventor's endeavor are considered “analogous art” which may be relied upon in patentability determinations if person of ordinary skill would reasonably have consulted those references and applied their teachings in seeking solution to problem that inventor was trying to solve; whether reference is “analogous art” is question of fact, and is part of analysis of scope and content of prior art.”

Applicant respectfully submits that a person of ordinary skill in the art of designing security doors would not reasonably be expected to look to the field of automotive vehicle frame construction for guidance in constructing a security door. Furthermore, even if Janotik et al is combined with the Lee, Bruhnke et al, Goldsmith, and Stern references, there is still no disclosure whatsoever in the Janotik et al reference that would lead one to spot weld the security bars 13 and 14 to the frame 122 of the Lee reference. This is an essential feature of all of the claims of the application, including dependent Claims 6, 12, 16, and 17. While the structural member 174 of Janotik et al is hollow so that a spot welding electrode can be inserted within it, the security bars 13 and 14 of Lee are solid

members (Fig. 2). Spot welding electrodes cannot, therefore, be inserted into the security bars 13 and 14 of Lee as they can within the hollow member 174 of Janotik et al.

For all of the foregoing reasons, Applicant respectfully contends that the Examiner's decision rejecting all of Claims 1-17 should be reversed.

APPENDIX

CLAIMS

1. In a method of fabricating a metal security door having a frame formed with a pair of hollow, upright stile members, upper and lower hollow transverse rail members extending between said stile members, and security bars extending between at least some of said stile and rail members, the improvement comprising spot welding said security bars to said at least some of said stile and rail members.

2. A method according to Claim 1 including a plurality of transverse security bars and a plurality of upright security bars, and further comprising forming said stile members and said rail members with flat, inwardly directed attachment flanges, positioning said transverse security bars so that they pass across said attachment flanges of said stile members, and positioning said upright security bars so that they pass across said attachment flanges of said rail members wherein said upright and transverse security bars reside in contact with and are spot welded to said attachment flanges across which they pass.

3. A method according to Claim 2 further comprising forming and positioning said attachment flanges in mutually coplanar relationship with each other to reside in a common plane and said step of spot welding is performed to attach said transverse security bars to said attachment flanges of said stile members on one side of said common plane and said step of spot welding is performed to attach said upright security bars to said

attachment flanges of said rail members on the opposite side of said common plane.

4. A method according to Claim 2 further comprising first punching security bar receiving openings in at least one flat sheet metal strip and cutting said at least one flat sheet metal strip to form corner securing tabs thereon, roll forming said at least one flat sheet metal strip to form said hollow members at least some of which have pairs of said corner securing tabs projecting therefrom, positioning said hollow members so that said frame has a rectangular configuration forming four corners in which said transverse rail members meet said upright stile members with a pair of said corner securing tabs at each of said corners projecting into an adjacent hollow member, and spot welding said pairs of corner securing tabs to a hollow member adjacent thereto at each of said corners.

5. A method according to Claim 4 further comprising forming all of said hollow members from a single flat, sheet metal strip.

6. A method according to Claim 5 further comprising initially cutting spot welding tip access apertures in said flat, sheet metal strip, thereby creating at least one spot welding tip access aperture in said hollow members at each of said corners, and spot welding said pairs of corner securing tabs to said adjacent hollow members by inserting internal spot welding tips into said spot welding tip access apertures so as to contact said corner securing tabs within said adjacent hollow members, bringing external spot welding tips into external contact with said adjacent hollow members and passing electric currents between said internal and said external spot welding tips to spot weld said hollow members together at each of said corners.

7. A method of fabricating a metal security door comprising:

5 forming four hollow metal door perimeter segment members so as to define a plurality of security bar receiving openings in each of said perimeter segment members,

positioning a plurality of metal security bars to project through said security bar receiving openings and into said perimeter segment members so that said ends of said metal security bars terminate within said perimeter segment members and positioning said perimeter segment members together to form a rectangle, and

spot welding said ends of said metal security bars to said perimeter segment members within which they terminate.

8. A method according to Claim 7 further comprising roll forming said segment members so as to create a security bar attachment flange on each of said hollow perimeter segment members, whereby when said perimeter segment members are positioned together to form said rectangle said attachment flanges all project inwardly within said rectangle and lie in a common plane, and whereby said security bar receiving openings in each of said perimeter segment members reside proximate to said security bar attachment flange thereof on one side of said common plane while said security bar receiving openings in each adjacent perimeter segment member lie on the opposite side of said common plane.

9. A method according to Claim 8 further comprising forming said hollow segment members from at least one elongated sheet of metal having opposing longitudinal

edges, rolling said edges together and turning one edge over the other to form said security bar attachment flanges.

10. A method according to Claim 9 further comprising forming all of said hollow segment members from a single, elongated sheet of metal.

11. A method according to Claim 7 further comprising forming at least some of said perimeter segment members with corner tabs projecting from their ends and spot welding said corner tabs to other of said perimeter segment members located adjacent thereto.

12. A method according to Claim 11 further comprising cutting electrode access openings in at least some of said perimeter segment members so that there is an electrode access opening at each corner of said rectangle, inserting internal spot welding electrodes into said electrode access openings, pressing external spot welding electrodes against said perimeter segment members to hold said corner tabs in contact with said other of said perimeter segment members located adjacent thereto, and passing electric current between said internal and said external electrodes to spot weld said corner tabs to said other of said perimeter segment members located adjacent thereto at each of said corners of said rectangle.

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13. A method of fabricating a security door comprising:
forming a metal door frame to define a pair of hollow upright stile frame members and upper and lower hollow transverse rail frame members so that each of said frame members has an inner face with an attachment flange projecting therefrom and

5 forming security bar receiving apertures in all of said frame members so that said security bar receiving apertures are located in said inner faces of said frame members,

assembling a plurality of metal security bars with said hollow frame members so that the ends of said security bars project through said security bar receiving apertures and into said hollow frame members and so that said security bars pass over and reside in contact with said attachment flanges, and

10 spot welding said security bars to said attachment flanges so as to permanently secure said security bars to said metal door frame.

14. A method according to Claim 13 further comprising roll forming said metal door frame from a single elongated strip of sheet metal and cutting miter cuts into said strip to form mitered corners between adjacent frame members.

15. A method according to Claim 13 further comprising the steps of:
cutting an elongated continuous flat sheet metal strip to form mutually parallel, longitudinal edges thereon;
cutting mitered corners and pairs of opposing corner tabs in said longitudinal edges of said strip;
rolling said flat sheet metal strip to form a structure having a hollow cross section;
crimping said longitudinal edges of said strip together between said mitered corners to form said stile frame members and said transverse rail frame members;
longitudinally bending said rolled sheet metal strip at right angles

between said frame members to bring said stile frame members into perpendicular alignment relative to said rail frame members and so that said pairs of corner tabs project alongside surfaces of said frame members adjacent thereto at said mitered corners; and

spot welding said pairs of corner tabs to said frame members adjacent thereto to thereby secure said stile frame members in perpendicular alignment relative to said upper and lower transverse rail frame members.

16. A method according to Claim 15 further comprising cutting spot welding electrode access openings into said sheet metal strip, inserting internal spot welding electrodes into said electrode access openings prior to spot welding said pairs of corner tabs, and withdrawing said internal electrodes from said electrode access openings after spot welding said pairs of corner tabs.

17. A method according to Claim 16 further comprising sequentially spot welding each of said corner tabs in each of said pairs.

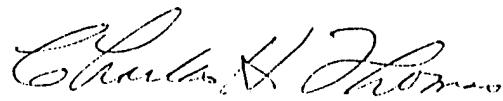
Enclosed herewith is a check in the amount of one hundred fifty-five dollars (\$155.00) for the fee due for filing a brief in support of this appeal in accordance with 37 CFR § 1.17(c).

Please charge any underpayment or credit any overpayment of fees in connection with this appeal to Patent Office Deposit Account 032035.

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Date: February 5, 2001

Respectfully submitted



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